Collection 6 Wish List

for MOD35, MOD06, and MOD07

MOD35

* Implement angle-dependent 0.86 μm thresholds for day ocean
* Implement day/night, land/water dust detection algorithm
* Lower 1.38 μm thresholds to “thin cirrus” values, but keep thin cirrus flag for users (all scene types except snow/ice)
* Investigate cloud test using variability of 0.86 μm reluctances in a 3x3 region for day ocean
* Investigate angle and location-dependent 0.66 μm thresholds for day land
* Investigate cloud test using variability of 3.75 μm BTs for night ocean
* Investigate use of 7.2-11 μm BTDs in polar day scenes
* Use 11 μm BTs and surface data to help screen out false snow from both maps (night) and NDSI (day)
* Tune-ups:
  - 3.9-11 μm cloud test threshold/algorithm for night coastlines and shallow water (eliminate uncertain results as much as possible
  - 3.9-11 μm cloud test thresholds for night land in moist environments (e.g., Amazon)
  - Adjust Antarctic night cloud test thresholds

MOD06CT

- Implement “top-down” method of final CTP choice for Aqua
- Output cloud (geopotential) heights along with cloud top pressures
- Run algorithm at 1 km resolution
- Include cloud overlap / phase at 1 km
- Include multiple cloud top pressure solution flag for window channel retrievals
- Investigate inversion detection for low level water cloud to be located below inversion

MOD07

1. Investigate the dry bias in Aqua TPW and make adjustments to improve.
2. Perform a more thorough evaluation of the ozone product through intercomparisons with TOMS and AIRS and make adjustments to algorithm
3. Evaluate the current radiance bias adjustments in Aqua and Terra algorithms and make updates.
4. Look into whether we can include all profiles at 101 levels in direct broadcast or at the DAAC, and an ozone profile instead of just TOZ.
5. Assess the TPW Low and TPW High products and possibly change the levels of integration to make them more useful.
6. Improve QA/QC flags and screening for bad input MOD02L1B data.
7. Examine the MOD07 Level 3 products for consistency with other long term datasets (NVAP).
8. Perform an experimental combined retrieval with AIRS, for at least a few cases.
9. Making Aqua and Terra DAAC code uniform